AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. (presently amended) A multiple fan monitoring circuit for use with a plurality of fans, wherein each of said plurality of fans operates at a different frequency and generates a tach signal indicative of said fan operation that is output on a single single fan sense node, wherein each of said tack signals is output concurrently with each of the other said tack signals on said single fan sense node, comprising:

a plurality of waveform shaping networks, wherein each of said plurality of waveform shaping networks is coupled to a corresponding one of said plurality of fans and utilized to waveshape a tach signal generated by said corresponding fan; and

a frequency processing circuit, coupled to said plurality of waveform shaping networks, that concurrently receives said waveshaped tach signals at a single fan sense node, wherein said frequency processing circuit includes:

a summing circuit, coupled to said single fan sense node, that combines said waveshaped tach signals into a single combined signal; and

a frequency discriminator, coupled to said summing circuit, that separates said single combined signal into multiple components, wherein each of said multiple components corresponds to a particular fan in said plurality of fans.

2. (canceled)

3. (presently amended) The multiple fan monitoring circuit as recited in Claim 1~~2~~, wherein said frequency processing circuit further comprises an analog to digital converter.

4. (presently amended) The multiple fan monitoring circuit as recited in Claim 1~~2~~, wherein said summing circuit includes a operational amplifier (op-amp) configured as a summer.

5. The multiple fan monitoring circuit as recited in Claim 1, wherein each of said plurality of waveform shaping circuits includes a resistor and a capacitor.

6. (presently amended) The multiple fan monitoring circuit as recited in Claim 1~~2~~, wherein said frequency discriminator utilizes a fast fourier transform (FFT) process to separate said single combined signal into multiple components.

7. The multiple fan monitoring circuit as recited in Claim 1, wherein each of said plurality waveform shaping networks includes a blocking capacitor.

8. (presently amended) A method for monitoring a plurality of fans utilizing a single sense node, wherein each of said plurality of fans operates at a different frequency and generates a tach signal indicative of said fan operation, said method comprising:

waveshaping each of said tach signals generated by said plurality of fans;

combining said waveshaped tach signals at said single sense node into a single combined tach signal; and

separating said single combined tach signal into multiple components, wherein each of said multiple components corresponds to an associated fan in said plurality of fans.

9. The method as recited in Claim 8, wherein said waveshaping each of said tach signals includes utilizing a plurality of waveform shaping networks, wherein each of said plurality of wave form shaping networks includes a resistor and a capacitor.

10. The method as recited in Claim 8, further comprising converting said single combined signal into a digital form.

11. The method as recited in Claim 8, wherein said combining said waveshaped tach signals includes utilizing a operational amplifier configured as a summer.

12. The method as recited in Claim 8, wherein said separating said single combined signal includes performing a fast fourier transform (FFT) operation on said single combined signal.

13. The method as recited in Claim 10, wherein said converting said single combined signal includes utilizing an analog to digital converter.

14. (presently amended) A data processing system, comprising:

a processor having at least one single fan sense node;

a plurality of fans, wherein each of said plurality of fans operates at a different frequency and generates a tach signal indicative of said fan operation that is output on said single fan sense node, wherein each of said tack signals is output concurrently with each of the other said tack signals on said single fan sense node; and

a multiple fan monitoring circuit, coupled to said plurality of fans, including:

a plurality of waveform shaping networks, wherein each of said plurality of waveform shaping networks is coupled to a corresponding one of said plurality of fans and utilized to waveshape a tach signal generated by said corresponding fan; and

a frequency processing circuit, coupled to said plurality of waveform shaping networks, that receives said waveshaped tach signals at ~~a~~ said single fan sense node, wherein said frequency processing circuit includes:

a summing circuit, coupled to said single fan sense node, that combines said waveshaped tach signals at said single fan sense node into a single combined signal; and

a frequency discriminator, coupled to said summing circuit, that separates said single combined signal into multiple components, wherein each of said multiple components corresponds to a particular fan in said plurality of fans.

15. (canceled)

16. (presently amended) The data processing system as recited in Claim 14~~15~~, wherein said frequency processing circuit further comprises an analog to digital converter.

17. (presently amended) The data processing system as recited in Claim 14~~15~~, wherein said summing circuit includes a operational amplifier (op-amp) configured as a summer.

18. The data processing system as recited in Claim 14, wherein each of said plurality of waveform shaping circuits includes a resistor and a capacitor.

19. (presently amended) The data processing system as recited in Claim 14~~15~~, wherein said frequency discriminator utilizes a fast fourier transform (FFT) process to separate said single combined signal into multiple components.

20. The data processing system as recited in Claim 14, wherein each of said plurality waveform shaping networks includes a blocking capacitor.